

Carbon Financing Opportunities for US CMM Projects

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PRESENTED TO
CMOP Roundtable

PRESENTED BY

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3degreesinc.com

3Degrees

We find high quality projects and bring to market Renewable Energy Certificates and Verified Emission Reductions from around the world.

Renewable Energy Certificates

Resale and Wholesale Sales
of Renewable Energy
Certificates

Globally Sourced Carbon Offsets

Resale and Wholesale Sales
of Verified Emission Reductions

Utility Green Pricing Programs

Green Power Program Design
and Management

Carbon Footprinting

Calculation of the Bounds of
Organizations' Carbon Profile

Regulatory Advisory

Federal, Regional, and Local
Renewable Energy and Climate
Advisory Services

2007 DOE Renewable Energy Marketer of the Year



Our Clients

3Degrees is a proud supplier of renewable energy certificates and verified emission reductions to 200 business clients including:

- 10 of the Top 25 Green Power Purchasers
- 30 Fortune 500 Challenge companies
- 30 Fortune/Global Fortune 500 companies
- 14 Climate Leaders



Coca-Cola, Johnson & Johnson, Gap Inc., Pepsi, NBC, IKEA, Staples, IBM, and over 200 other businesses and institutions...



Our Projects

3Degrees has sourced RECs and VERs from over 200 facilities across the United States and abroad, including from projects in Canada, Mexico, China, India, Brazil, and New Zealand.

Verified Emissions Reductions (Global)

- **Methane Abatement**
 - Coal mine methane
 - Agricultural/dairy methane
 - Landfill methane
- **Renewable Energy**
 - Wind
 - Other Renewables
- **Sustainable Forestry Management**

Renewable Energy Certificates

- **Wind**
- **Geothermal**
- **Biomass** (combustion)
- **Dairy methane** (electrification)
- **Landfill methane** (electrification)
- **Low-impact hydro**



3Degrees' Top 10 Questions to Ask Your Provider When Considering Verified Emissions Reductions

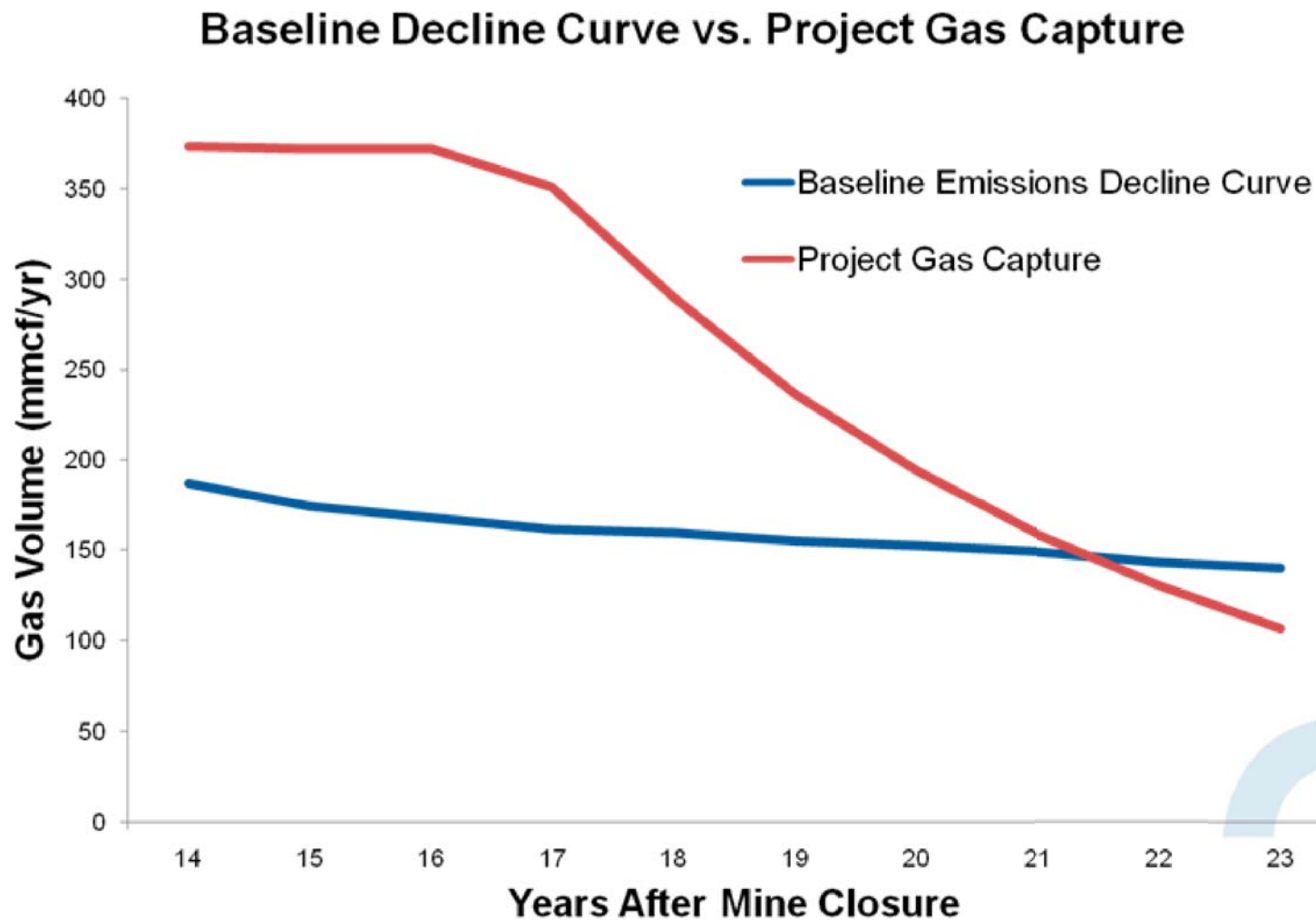
1. Do you source offsets from **specific projects**?
2. Is the provider **transparent**?
3. Is the project third-party **verified**?
4. Does the project pass an “**Additionality**” test?
5. Are the greenhouse gas emission reductions **real, additional, verifiable, and permanent** reductions against a business-as-usual baseline?
6. What is the **timing** of the offset delivery?
7. Have the reductions been sold to **more than one buyer**?
8. Does the project create **additional benefits** beyond CO2 reduction?
9. Can the provider demonstrate clear, legal **ownership**?
10. Has the provider disclosed and addressed all **potential risks**?



Voluntary Offset Protocols

- Voluntary Carbon Standard (VCS)
 - New methodologies accepted through double Validation process.
- Chicago Climate Exchange (CCX)
 - Emission reductions awarded based on methane captured
- GE AES Greenhouse Gas Services
 - Emission reductions awarded based on methane captured
- Standards that do not accept Abandoned CMM
 - CDM
 - CCAR
 - RGGI
 - VER+
 - Gold Standard

VER crediting schedule for Abandoned Mine Methane projects



Key Modeling Factors

Tier 3 Approach in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 4

- Mine Closure Date
- Methane Emission Rate at Closure
- Emission Factor (% of initial emission rate, for each year post closure).
 - Emissions data gathered from closed mines in the region
 - Coal Thickness
 - Mine Depth
 - Coal Permeability
 - Composition of the native coal bed gas

○ A Real, High-Quality, Additional, Third-Party Verified Carbon Reduction Project: Pennsylvania Retired Coal Mine Methane

PROJECT LOCATION

Pennsylvania

PROJECT TYPE

Retired Coal Mine
Methane Capture &
Use Project

ONLINE DATE

MAY 2008

ANNUAL EMISSION REDUCTIONS

Average 30,000
mtCO₂e / year

VERIFICATION AND REGISTRATION

Voluntary Carbon
Standard



BASELINE METHODOLOGY

2006 IPCC Guidelines for GHG Inventories & EPA model for assessing emissions from abandoned coal mines in the U.S.

PROJECT OVERVIEW

- Retired coal mines continue to emit harmful methane from the un-mined coal that remains underground. Methane is a potent GHG.
- The project captures gas at the retired “B” seam of coal in the Cambria 33 mine, which underlies 8,000 acres of land privately owned by a farmer who actively harvests hay and corn from nearby fields.
- There are no laws or regulations that require a closed mine to capture methane.



Bringing Climate Solutions Down To Earth™

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